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ABSTRACT

Over a semester, two university-based researchers worked with 12 teachers in a single school (grades 1-5) to better understand the teachers' implementation of a transactional strategies instruction curriculum. The researchers and teachers used group discussions, classroom observations, and one-to-one conversations to jointly develop structured interviews with the teachers, in an effort to understand the teachers' strategies-instruction processes. The structured interviews confirmed a large repertoire of teaching practices observed by the researchers. Many of the teaching practices were intended to scaffold students' use of strategies. The formal and informal preliminary interactions, combined with the structured interview, provided a great deal of information about the teachers' perceptions of strategies instruction. The teachers perceived strategies instruction to be demanding, with many obstacles to its effective implementation, but they were committed to it because they believed it promoted the achievement of their students. (Contains 50 references, 4 tables, and 6 figures of data.) (Author)

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The Teaching Practices of Transactional-Strategies-Instruction Teachers as Revealed Through Collaborative Interviewing

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READING RESEARCH REPORT NO. 23
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The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

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Michael Pressley is a Professor of Educational Psychology and Statistics, State University of New York at Albany, and a principal investigator with the National Reading Research Center. He has published extensively in the areas of reading, memory, and cognition and instruction. His current work is diverse, including studies of exemplary primary-level reading instruction, comprehension strategies instruction, and student use of graphing calculators in postsecondary mathematics.

Lynne Coy-Ogan is a Principal Trainee at Greencastle Elementary School. At the time of this study, she was the Curriculum Specialist at Burnt Mills Elementary School, where she had initiated professional development for strategies-based instruction across the curriculum. Prior to the study, she had 5 years of experience teaching strategies to students in the primary grades. She also had appeared in staff-development videos, serving as a model strategies-instruction teacher. In her administrative capacity, she continues to support explicit strategies instruction for students by training her staff to provide teacher development and by observing classrooms to examine the impact of strategies instruction on students.

Ted Schuder works for the Maryland State Department of Education's Division of Instruction. While serving in the Montgomery County Public Schools' Office of Academic Skills, he developed an integrated reading/language arts curriculum for grades K–8. For the past eight years he has worked on the use of strategies-based instruction in meaning-centered curricula, while exploring the application of interactive video to staff development. Previously he worked for the New York State Department of Education, where he designed and developed theory-based reading comprehension assessments. He has more than twenty years' experience in designing instructional programs and criterion-referenced assessments.

At the time of this study, the participating **strategies instruction teachers of the Burnt Mills Elementary School** had 1 to 20 years' experience teaching elementary students. Within the three years preceding the study, the teachers had all been recruited to the new school, where the curriculum specialist was focusing on implementing strategies-based instruction across the curriculum. The teachers volunteered to participate in strategies-instruction professional development and in this study. At the outset of the study, seven of the teachers had one year of prior experience with strategies instruction, one teacher had 2 years, two had 3 years, and one had 7 years. Most of the Burnt Mills teachers returned to the school, where they continue to teach strategies to help students improve their comprehension and learning.

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Abstract. *Over a semester, two university-based researchers worked with 12 teachers in a single school (Grades 1–5) to better understand the teachers' implementation of a transactional strategies instruction curriculum. The researchers and teachers used group discussions, classroom observations, and one-to-one conversations to jointly develop structured interviews with the teachers, in an effort to understand the teachers' strategies-instruction processes. The structured interviews confirmed a large repertoire of teaching practices observed by the researchers. Many of the teaching practices were intended to scaffold students' use of strategies. The formal and informal preliminary interactions, combined with the structured interview, provided a great deal of information about the teachers' perceptions of strategies instruction. The teachers perceived strategies instruction to be demanding, with many obstacles to its effective implementation, but they were committed to it because they believed it promoted the achievement of their students.*

Since Durkin's (1979) classic analysis of elementary reading, showing it to be deficient in comprehension instruction, a number of investigations have been undertaken to determine what can be taught to students to improve their comprehension. A number of individual strategies have been validated as positively affecting comprehension and memory of text when children are instructed in their use. These include, among others, self-questioning, constructing images that represent the meaning of text, summarizing, attending to structural cues such as story grammar elements and expository conventions, and rereading (for reviews, see Dole, Duffy, Roehler, & Pearson, 1991; Pearson & Dole, 1987; Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989). Reading researchers have also studied how teaching sets of strategies to elementary students can improve reading (e.g., Collins, 1991; Duffy et al., 1987), especially comprehension (e.g., Bereiter & Bird, 1985; Palincsar & Brown, 1984). Such teaching is a starting point for students to construct an understanding about the active processing of text (Harris & Pressley, 1991; Pressley, Harris, & Marks, 1992), so they can move in the direction of the active processing highly skilled readers use when reading with high comprehension (see Pressley & Afflerbach, 1995).

One response by the educator community to research on strategies was the development and implementation of comprehension strategies instruction in some schools. When researchers initially examined strategies instruction in these school-based programs, it was apparent that it was different than the strategies teaching studied in formal research (Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989; Pressley, 1994, Pressley et al., 1993). There was not, however, a detailed understanding of how educators were implementing and adapting strategies instruction. That is, the research conducted by university-based researchers had focused on evaluating the impact of strategies instruction rather than on describing how strategies instruction is delivered by educators in the context of their ongoing curricula. This prompted our research team, then at the University of Maryland, to examine three school-based strategies-instruction programs to understand the mix of components educators use when they teach reading comprehension strategies as part of their ongoing instructional programs. Each of the strategies-instruction programs we studied had been operating for several years. There was evidence of program effectiveness in every case, either from quasi-experimental comparisons conducted by the school personnel or from strongly suggestive correlational outcomes.

The purpose of the investigation reported here was to detail even more completely than in previous reports the teaching practices of strategies-instruction teachers in one school-developed program, representative of the ones we studied previously. To do so, two external researchers worked with teachers through observations and conversations (group and individual) intended to assist in the development of a structured questionnaire about the teachers' strategies teaching processes. An important feature of this study was that the participating educators were involved exten-

sively in developing the topics and assessing the items of the questionnaire/interview they would complete in the final stage of the study. That is, the educators who designed, administered, and delivered the strategies instruction studied here were collaborators in this investigation; this is reflected in their coauthorship of this text. Before turning to the new understandings generated in this study, we review what we knew about educator-developed and educator-implemented classroom strategies instruction before this study was conducted, as well as the methodology used in this investigation.

Strategies Instruction Designed and Implemented by Educators

The first educator-designed and educator-implemented strategies-instruction program our research group studied was at the Benchmark School, which serves high ability students who have experienced great difficulties in learning to read in regular schools (Gaskins & Elliot, 1991). The research at Benchmark included an extensive interview study about strategies teaching (Pressley, Gaskins, Cunicelli, et al., 1991), a semester-long case study of strategies instruction in a fourth-grade classroom (Pressley, Gaskins, Wile, Cunicelli, & Sheridan, 1991), and an analysis of the discourse structures characterizing strategies-instruction lessons (Gaskins, Anderson, Pressley, Cunicelli, & Satlow, 1993).

The Benchmark studies were followed by investigations at a second site, a Maryland public school system that had developed and implemented comprehension strategies instruction for Chapter 1 and at-risk elementary-level students. Ethnographies, case studies, and interview studies were conducted by the University of Maryland team to identify the various components comprising comprehension strategies instruction in three programs operated by the district (Bergman & Schuder, 1992; Pressley, El-Dinary, et al., 1992; Pressley, Schuder, SAIL Faculty and Administration, Bergman, & El-Dinary, 1992; Schuder, 1993): Students Achieving Independent Learning (SAIL), Summer Institute for Achievement (SIA), and Strategies-Based Instruction (SBI). These interventions differed from one another chiefly in their scope (i.e., school-year reading instruction for SAIL; summer-school reading and arithmetic for SIA; throughout the school year and across the curriculum instruction for SBI). These programs each included a small set of comprehension strategies that students were taught to use fluidly and flexibly: (a) anticipate what might be upcoming in text based on structure and content clues, (b) evaluate and adjust expectations as reading continues, (c) respond aesthetically and interpretively to content, (d) visualize the meanings conveyed in text, (e) summarize periodically, (f) associate information in text to background knowledge, (g) monitor comprehension and progress in understanding text, and (h) treat reading as a problem-solving task when meaning is unclear. Students also were taught to use strategies to solve comprehension problems and deal with difficult words. The word attack strategies included (a) skipping the unknown item, (b) using context clues to guess meaning, (c) rereading text to find additional clues to the

word, and in recent years, (d) using phonetic decoding skills.

A general understanding of the instructional processes in the SAIL, SIA, and SBI programs—ones consistent with those observed at Benchmark—emerged from the descriptive studies of them. Strategies were taught daily over a long period of time, ideally over years of schooling. Teachers explained strategies and modeled coordinated application of strategies to understand text content. Reading groups involved scaffolded (e.g., Wood, Bruner, & Ross, 1976) application of strategies to text, as teachers encouraged strategies-mediated discussions, which predominated during group reading. That is, students in the group predicted upcoming content, generated questions, constructed images depicting meaning of text content, summarized, related information in text to prior knowledge, and generated personal interpretations of text.

The third setting studied by the University of Maryland researchers was in the Carroll County, Maryland public schools. This educator group dramatically adapted Palincsar and Brown's (1984) reciprocal teaching model (Coley, DePinto, Craig, & Gardner, 1993; Marks et al., 1993). Like the other programs studied by the Maryland researchers, the Carroll County program involved long-term teaching of strategies, including scaffolded student practice in applying strategies to texts read as part of language-arts instruction.

In all three programs studied by the University of Maryland researchers, students dialogued with one another about text content. The dialogues reflected the strategic processing emphasized in the particular program the students were experiencing.

Transactional strategies instruction. We call the general approach to the long-term strategies instruction that we have studied *transactional strategies instruction*. It is transactional in three senses of the term: (a) Meaning is determined by minds applying strategies to text content, consistent with Rosenblatt's (e.g., 1978) classical analyses of text interpretations as products of transactions between reader knowledge and text content; (b) When students use strategies in groups to discuss and interpret text, how one person reacts is largely determined by what other participants in the group are doing, thinking, and saying. Thus, strategies instruction and use is transactional in the sense of the term as it is used in the developmental psychology literature (e.g., Bell, 1968); (c) The meaning that emerges during strategies-mediated reading groups is the product of problem solving involving all of the people in the group, who collectively tackle the problem of determining a text's meaning. Organizational psychologists (e.g., Hutchins, 1991; Wegner, 1987), in particular, have studied how group members develop understandings through transactions that they would not have developed on their own.

Formal validation of educator-developed and educator-implemented comprehension strategies instruction. In addition to the descriptive studies of transactional strategies instruction, a controlled quasi-experimental evaluation of the SAIL program was recently completed at the second-grade level by Brown (see Brown & Pressley, in press; Brown,

Pressley, & Schuder, in preparation). A year of transactional comprehension strategies instruction improved student comprehension as measured by a variety of instruments, from conventional standardized tests to measures of reader response and personal interpretation. In Carroll County schools, DePinto and Pressley are currently completing a year-long, quasi-experimental evaluation of transactionally-adapted reciprocal teaching, with preliminary analyses suggesting substantial benefits of such teaching at the fifth-grade level (DePinto & Pressley, in preparation).

Collaborative Interview Methodology

Although all of the qualitative methods we have used were helpful in documenting the nature of transactional strategies instruction, one of the most potent was analytical interviewing of strategies-instruction teachers. The early interviews by the University of Maryland research group were traditional (e.g., Pressley, Gaskins, Cunicelli, et al., 1991). More recent interviews have been more flexible, grounded in researchers' ethnographic observations as well as in ongoing interactions with teacher participants.

We have come to refer to this latter approach as collaborative interviewing: External researchers observe teaching and converse with teachers in preparation for developing a structured interview with the teachers. At every stage of the development of the questions for the structured interview, the teachers provide input and guidance to the external researchers. The researchers work with the teachers to develop a final questionnaire/interview that will provide information that is salient to the teachers' experiences and perceptions. That is, the teachers work with the external researchers so that the researchers ask the right questions, questions that get at the issues considered important by the teachers.

The collaborative interview approach is consistent with contemporary qualitative methodologies that stress the gradual emergence of the methods in a study as data are collected and analyzed (e.g., Strauss & Corbin, 1990). Some readers will also recognize that the type of interviewing used here is commonly employed by knowledge engineers as part of designing expert systems (e.g., Diaper, 1989; Meyer & Booker, 1991; Scott, Clayton, & Gibson, 1991). Their assumption is that people know a great deal about decisions that they make often and consciously, and that they can communicate much of that knowledge if asked focused questions about their behaviors. This approach to generating information about strategies teaching is appropriate because, in the long term, strategies teachers consciously decide to teach strategies, and in the short term, they make many conscious decisions as they teach. See, for example, Pressley, Gaskins, Cunicelli et al. (1991); Pressley, El-Dinary, et al. (1992); and El-Dinary and Schuder, (1993) for evidence that teachers can relate both their long-term and short-term decision making about strategies instruction by responding to focused questions about their instruction.

Like many forms of ethnographic interviewing (Lincoln & Guba, 1985), collaborative interviewing can produce much more detailed

information than standard interviewing or observations. For example, the previously published collaborative interview study (Pressley, Schuder, et al., 1992) that was aimed at identifying potential effects of transactional strategies instruction on students produced a fuller and more convincing portrait of its potential impact than would have been possible through ethnography alone or traditional interviewing. The more detailed portrait in Pressley, Schuder, et al. (1992) was especially important, because it informed the design of dependent measures in Brown and Pressley's (in press; Brown et al., in preparation) quasi-experimental validation of transactional strategies instruction.

Thus, the collaborative interview process was the method of choice in this investigation for producing a more detailed understanding of strategies teaching than emerged from previous studies of transactional strategies instruction. Before this study was conducted, we knew that modeling, explanation, and scaffolded application of strategies occurred as part of the SAIL and SBI programs, but there was little understanding of the relative importance of or emphasis on these processes in educator-devised and educator-implemented transactional strategies instruction. Moreover, many subtle processes that accompany direct explanations, teacher modeling, and student practice of strategies were simply ignored in our previous efforts aimed at the global understanding of transactional strategies instruction.

The Current Study

In the investigation reported here, the first two authors observed the many teaching processes that are intercoordinated in one transactional-strategies-instruction program, the SBI program, described earlier in this introduction. Over more than a semester, the first two authors interacted with the teachers of the program both formally and informally, in preparation for a structured questionnaire/interview that would provide quantifiable information about components of teachers' comprehension strategies instruction. The third author was the curriculum specialist employed by the school district for the participating school; she was a teacher in the school before the study began and an expert strategies-instruction teacher. The knowledge she gained about strategies instruction in the participating classrooms through her job-related activities (observing teaching, fielding teacher questions, providing resources to teachers) also informed the development of the structured questionnaire/interview, with the third author interacting continuously with the first and second authors during their semester of observations, interactions, and preliminary interviews. The fourth author was the chief developer of language-arts curricula for the school district. During the time when this study was conducted, he interacted with the first and second authors, reviewing drafts of interview questions and offering suggestions for revising and expanding the

emerging structured questionnaire/interview based on his knowledge of the SBI program. The classroom teachers themselves were the "fifth author" of this study. At every point in the study, they guided the two external researchers and the strategies-instruction resource teacher in constructing high-quality questions that would be revealing about their own classroom teaching of strategies, questions that they would answer during the structured questionnaire/interview.

The structured interview questions that emerged from the semester of observations, preliminary interviews, and interactions were intended to reveal the relative importance and frequency of teachers' strategies-instruction practices. Thus, this study fleshed out the transactional strategies teaching processes as represented in one school's transactional-strategies-instruction program, a program similar in many ways to transactional approaches studied previously in this program of research.

METHODS (INCLUDING FORMATIVE QUALITATIVE OBSERVATIONS)

The Two External Researchers

Both of the university-based researchers had extensive experience studying transactional strategies instruction in schools. The first author was a coinvestigator for the 3 years of descriptive study of the SAIL, SIA, and SBI programs. The second author was a coinvestigator on two of the Benchmark School studies and a coinvestigator on the descriptive studies of the SAIL, SIA, and SBI programs and the adapted reciprocal teaching program. Both external researchers were experienced in conducting classroom ethnographic observations and in participating in the collaborative interview process.

Educators Who Participated as Co-Researchers

Twelve educators in a single school in Maryland were the participants in this study during 1992–93. The 12 teachers varied from 1 to 20 years previous teaching experience. There were 11 females and one male. Ten were regular classroom teachers, spanning Grades K–5; one was an across-grades reading specialist; and one (the third author of this investigation) was the school's curriculum specialist. Because the school was only 3 years old, all of the teachers had been recruited to it in the recent past. The curriculum specialist, in consultation with the administration and faculty of the school, had initiated implementation of strategies-based instruction across the curriculum, with an emphasis on strategies instruction in reading. The initiative began during the year preceding this study (1991–92) and continued into 1992–93. The teachers who participated in this study volunteered to be part of the strategies-teaching initiative and this research project. The teachers expressed enthusiasm about strategies instruction throughout this study, and they were all quite willing to participate in the

observations, interviews, and interactions comprising the investigation reported here.

Previous experience teaching strategies. During the previous school year (1991–92), all of the participating teachers had four half-day in-service workshops on strategies-based instruction, which were provided by the curriculum specialist (the third author of this study). Counting the workshop experiences, strategies-based summer programs, and consequent attempts to integrate strategies in the curriculum during 1991–92, the teachers in this study (not counting the curriculum specialist) ranged in strategies-teaching experience from 1 to 7 years (specifically, seven had only the 1 year of experience, one had 2 years, two had 3 years, and one had 7 years). The curriculum specialist had 5 years of experience in teaching comprehension strategies at the elementary level and was considered one of the district's premier strategies-instruction teachers as well as an outstanding primary-grades teacher in general.

1992–93 Professional development with respect to strategies. The curriculum specialist coordinated strategies-instruction professional development. During the school year this study was conducted, the educators were particularly concerned with expanding strategies instruction beyond reading and mathematics, where it had been most effectively implemented previously (although to a lesser extent in mathematics than in reading), to other parts of the elementary curriculum (i.e., science, social studies). In response, the curriculum specialist developed three half-day workshops for the 11 other strategies-instruction teachers in this study. Additionally, the two external researchers and a senior curriculum development specialist from the school district's central office (the fourth author) held formal and informal meetings to address teachers' questions about theory and research on transactional strategies instruction. As a form of feedback, the first author provided each teacher with a copy of field notes based on researchers' observations of the teacher's classroom. Beyond the three common in-service workshops, 9 of the 11 teachers were divided into two groups which received two different types of additional in-service experience.

One group was composed of five teachers who were newer to strategies instruction. All of these teachers had participated in a 6-day intensive workshop in the summer of 1992 conducted by the fourth author and by teachers in the district who were experienced with transactional strategies instruction. During 1992–93, these five newer-to-strategies teachers received monthly, half-day, in-service sessions about strategies instruction, including videotaped and live modeling of strategies lessons. The school-based curriculum specialist also provided monthly in-class coaching to these teachers, including the opportunity to review videotapes of their own instruction and to discuss them with the curriculum specialist.

The second group of four teachers was more experienced in strategies instruction. Each of these teachers had received extensive in-service instruction in the past. During 1992–93, these teachers requested and received one half-day workshop focusing on their particular questions about strategies instruction.

One teacher not participating in either of these two 1992–93 groups had received extensive in-class modeling and coaching from the school-based curriculum specialist the previous year. This teacher continued to be coached in 1992–93.

The school's reading specialist was extensively experienced in strategies instruction. She received no additional training during 1992–93 beyond the common in-service meetings.

Procedures

The study used Pressley, Schuder, et al.'s (1992) collaborative interview methodology, in which teachers help develop the interview questions they ultimately will answer (see also Spradley, 1979; Mishler, 1986, especially Chapters 3 & 5). This approach is designed to tap as fully as possible the insider information possessed by teachers. We summarize each step of the study in what follows.

Agreeing with teachers to conduct the study. During the summer of 1992, the district and school curriculum specialists had recruited the two university-based researchers for the purpose of conducting a study of transactional strategies instruction at the school. In August 1992, the district curriculum specialist, the school curriculum specialist, and the two external researchers (i.e., the first four authors) first met with the participating teachers. All in attendance at the first meeting committed to the development of an interview that could tap the instructional practices used as part of strategies instruction. All teachers agreed to a set of activities the researchers proposed as part of the study: (a) focus group meetings during which groups of teachers would meet to identify issues surrounding strategies instruction; (b) a 1-hour classroom observation of each teacher followed by an individual, follow-up, open-ended conversation; (c) review of drafts of the structured-interview form developed in light of the focus-group comments, observations of strategies-instruction practice, one-to-one conversations, and other informal interactions; and (d) completion of the structured interview, involving both written responses and face-to-face interactions with one of the external investigators.

Focus groups. The first step in data collection was to hold several focus groups. The first one, held early in the fall, included all 12 participating teachers and lasted 1 hour. All teachers then participated in one of two smaller (six person) focus groups, each of which lasted approximately 20 minutes. In each focus group, teachers discussed their views about transactional strategies instruction, the practice of it, and their own development as strategies teachers. During these meetings, the teachers also suggested important questions to ask in order to understand strategies teaching. During the focus groups, the first two authors took extensive field notes, which they reviewed and discussed shortly after each group meeting. The meetings were recorded on audiotape as well, so that the first two authors could review discussions on specific issues in greater detail.

Individual observations and interviews. Analyses of the group meetings served to focus individual observations and interviews. That is, during the observations and inter-

views, the first two authors were attentive to information related to issues raised in the focus groups. The observers also attempted to identify information that would either support or refute emerging conclusions from the focus-group interviews.

A 1-hour classroom observation of each participating teacher was conducted during reading instruction, immediately followed by a conversation with the teacher who had been observed. These observations and conversations took place from early October to early November. The observations and conversations were recorded on audiotape, and the observer collected extensive written field notes during the observation. The first two authors conducted four of the observations and follow-up meetings as a team. The first author observed and met with an additional five teachers. The second author observed and met with two other teachers. These observations and preliminary interviews were complemented by some more informal interactions with individual teachers, from discussions in the teachers' lounge to chats on the run in the corridors to requests from individual teachers and groups of teachers about particular information or insights (e.g., about strategies instruction) that the teachers believed the external researchers might be able to provide to them.

Examples of observations and responses informing the development of the structured interview. As expected, the observations and interviews were richly informative about teaching processes. There was much in these data to suggest processes that should be tapped in the final interview.

For example, the observers witnessed many examples of teachers modeling and explaining the use of strategies. They also received a great deal of input about such modeling and explaining during the post-observation conversations. For instance, consider the following example of teacher modeling:

> TEACHER: I'm going to model for you what I want you to do when it's your turn to read. We'll start off, and we're going to be using the strategies from the fix-up kit. And the particular thing that we're working on is the skip-it if we come to a word that we don't know. Okay? Well, let's start with "The First Worm." [Teacher reads aloud] ". . . they had dug, skip-it, on a flat . . . . It could choke a dog!" I have a feeling that must be a big worm. If it's big enough to choke a dog, I'm thinking it must be a fat worm. I don't know if Billy is going to be able to eat the big worm. I have to kind of put myself in Billy's place. I don't think I could handle it. Now, let's go back. There was a word at the top that I had to skip. And I'm gonna see if I understand what this passage was about even though I didn't know that word. Okay? So it sounds to me like the boys went out looking for the worms for Billy to eat because of the bet. And they dug up some worms, and they came across this fat one. And worms being worms, they must have been moving around on this plate on this rock. So then, even though I didn't know what that word was, I think I understand what this paragraph is about.

> And that's why when we come to words we don't understand, we can use the skip-it strategy. And we get the gist of what we read, and it's okay to keep on going. All right? Now. I'm going to call on somebody else to read. Now notice what I did. After I read, if I came to words I didn't know, I skipped them, and I checked to see if I understood what I read. And that's what I want you to do, okay?

Another example of teacher modeling, this time of relating to background knowledge, is the following:

> TEACHER: I'm going to start, and I'm going to just model for you how I'm using some of the strategies, and we've done this before. [Teacher reads a page aloud.] When I read this, this makes me think of something that happened back when I was about your age. And my brother had a bird in our house, and we were keeping my grandmother's cat for a little while. And what I'm remembering in my background knowledge about cats and birds is that they really don't get along. My cat seemed to like to chase the bird, it was very curious about the bird, wanted to eat the bird, I think. And we had to be very careful to keep them apart. So when I read this page and I see the cat, and I'm looking right over that man's shoulder on this picture down on the bottom row and there's the canary, and that looks awfully close to the cat for me. If I were the canary, I'd be a little bit worried.

During a post-observation conversation, one of the teachers described how she explained strategies:

> TEACHER: I present explanations of individual strategies as part of whole-group read-alouds; for example, we might do a character web as a visualization strategy . . . . I use the keys bulletin board [a display that has "visualization," "prediction," "manipulation" on cut-outs that look like keys]. I've thought of adding to the display some keyholes that show when you might use each strategy, [with] examples of the strategy, such as a Venn diagram or role-playing. I do refer to the displays, especially for myself as a prompt for the vocabulary. I need visual cues.

It also became apparent during the observations that prompting occurred in many different ways that would need to be explored on the structured questionnaire. Here are two examples:

> [Student gets stuck on a word.]
>
> TEACHER: What do you want to do with that one? [pause] . . . What could you try?
>
> STUDENT: I don't know what to try.
>
> TEACHER: You're not sure what to try? Could you try one, and see if it works, and then try another if it doesn't?
>
> [Student stops at a word, pauses, then turns back in the book.]

TEACHER: [Student], what are you doing? What strategy are you using right now? . . . She's looking back to see if she can see that word she's stuck on. That's good. [pause] Is looking back helping you? Okay, do you know what it is? Well, what else would you like to do with this word?

In addition to prompts like these cuing students to choose a strategy for themselves, there were many instances when teachers prompted particular strategies, such as in the following examples:

TEACHER: Let's use some background knowledge here . . . .

TEACHER: [Student], can you summarize for us what is going on here?

TEACHER: I want you to visualize . . . . I want you to visualize in your head what a mouse looks like sweeping with a broom! What do you think, [student]?

When students attempted to apply strategies, teachers often responded with feedback or requests for elaboration, such as the following:

TEACHER: [Student's] thinking about a strategy she can use when she gets to a name that she's never seen before . . . . Let's see what she is going to do about this [Student attempts to sound out name.] . . . Okay, she's going to sound it out. That's a good strategy.

TEACHER: Okay, I think you're using one of your picture clues, aren't you? . . . To gather information about what this story or what this poem might be about . . .

TEACHER: [Student] did not know the word, so he decided to guess . . . . What else could he have done?

STUDENT: Hattie likes his mother to have a long nose [like the elephant].

TEACHER: Would it be useful for Hattie to have a mother with a long nose?

STUDENT: Yeah.

TEACHER: Why? Explain what you mean.

STUDENT: I mean Hattie wants his mother to have a big nose so he can take a bath like that.

Something else that became apparent during observations was that as the teachers in this school taught strategies, they also used many conventional teaching behaviors. Thus, we occasionally observed teachers attempting to direct interpretations of stories, as in the following examples:

TEACHER: Ah, so this wasn't the first time that Billy was involved in a bet, is that right? Okay. What does this show about Billy, though? What kind of character traits? How might we describe Billy? Cause we've seen here now that he accepted a bet back in the summertime when it was very hot, he was wearing

[many layers of] clothes just to win his bet. What does that show about Billy? [Student 1], what do you think?

S1: That anything he bets, he'll do it.

TEACHER: Mm Hmm. Okay . . . . [student 2]?

S2: One day they might bet him to stand in front of the road and let car hit him and he might do it.

TEACHER: Mm Hmm. But what does that show about Billy?

S2: He'd do anything.

S3: He's trying to please everybody.

S2: Everybody thinks he could do everything.

TEACHER: Okay . . . . Can we think over a character trait, other words, though, that's used to describe people who accept bets like that or take a risk? Can we think of a character trait? Can we find something on here [points to a poster on the wall]? . . . Can we find something? He accepted his bet. They dared him to do it, and he accepted it.

S4: He has people persuade him into doing things.

TEACHER: Oh, he has people persuade him into doing things. Okay. Any other words we can use to describe him?

S5: I think he's brave.

TEACHER: You think he's brave?

S5: I think it tastes and he's acting like he's very, like it tastes good, but actually it's not very good. Then, like, he's gonna eat some more, and that's how he's gonna get the money from them.

TEACHER: Uh huh. Can we think of some kind of word to describe people who don't give up on something easily, they just kind of keep sticking with it?

S6: Grump.

TEACHER: Grump? No. **I'm thinking of something to describe Billy**. He accepted a challenge, he accepted a bet, and he was willing to see this thing through to the end no matter what. Can we think of some ways, words you could use to describe it? [silence] Somebody said brave . . . . Anything else? . . . . **We're trying to describe Billy because I see some kind of picture in my head.**

TEACHER [READING]: "When he's done, he'll probably want . . ."

SOME STUDENTS: A cookie.

TEACHER: You think he'll want a cookie?

STUDENTS: Yeah!

TEACHER: Why?

STUDENT: He's hungry.

TEACHER: **He's hungry? Think, think, think. I want you to think**. He has *swept* the floors. He has *scrubbed* the floors.

And now look at him. **I don't think he wants a cookie**.

STUDENT: He's gonna ask for a nap.

TEACHER: Why? [Student] . . . . How do you think he feels? Look at him.

SOME STUDENTS: Tired.

TEACHER: Tired. I think you're right.

Another conventional teaching behavior that was observed was the posing of specific comprehension questions as occurs in teacher initiation–student response–teacher evaluation cycles (i.e., initiate-respond-evaluate cycles; Mehan, 1979). Here is an example:

Teacher initiates cycle with question:

And why was Lyle near Mrs. Prim? Why was he with Mrs. Prim all the time?

STUDENT: Because Mr. . . . worked at the department store and . . .

TEACHER EVALUATES: Okay.

In the conversations, the teachers were open about challenges they faced during strategy instruction. For example, they commented on the difficulties in giving up control and letting students lead discussions, especially when students needed coaching because they were having difficulty:

TEACHER: It's hard for me not to spoon feed when they don't get it. When I can't clarify through my own summary of the story, the lesson doesn't seem to get wrapped up as well. A question I still have is— how much information and clarification can I give when students aren't getting it?

TEACHER: I'm used to "Pulling it out of the children." It's hard for me to stop talking and use wait time.

Other challenges that came up in conversation are represented in the following teacher quotes:

- With these strategies, I feel more comfortable using them in reading and math, less comfortable using them in science and social studies.
- Is there a logical order for teaching the strategies? A better or preferred order?
- Are [strategies] introduced separately or when the need arises?
- I'm not sure when to use each strategy. Getting it to flow smoothly is a challenge.
- I have trouble coordinating all the pieces.
- My active students have a hard time sitting still to begin with. Discussions seem to go

on and on, and I worry that these low/non-readers aren't spending enough time *reading*.

- Great discussions take place but, when you're trying to cover curriculum [strategies instruction], can be time consuming.

- How much student responding is too much? How [and when] should I cut the discussion and bring students back into the flow of what's happening in the story?

In short, it proved easy to observe and talk with teachers about a wide range of teaching practices that were part of strategies instruction. Teacher difficulties with strategies teaching also were revealed—sometimes reflected in observations, and sometimes coming up in the post-observation conversations with the researcher. When all of the individual observation and interview data were combined with information from the focus groups, it was apparent that many practices and challenges needed to be probed on the final structured questionnaire.

Constant comparative development of the interview draft. The focus groups, observations, and individual conversations provided substantial information about strategies-teaching practices, teachers' perceptions of strategies-based instruction, and potential difficulties with the approach. Throughout the focus group, observation, and discussion process, the first author analyzed the data using a form of the constant comparison approach (e.g., Bogdan & Biklen, 1982; Glaser & Strauss, 1967; Strauss, 1987; Strauss & Corbin, 1990) to develop categories capturing the various teaching practices, perceptions, and concerns. The researcher did not start out with a predetermined checklist of issues or categories. Rather, she reviewed the data to try to uncover salient issues and patterns of responses both within and across teachers and data sources. As the researcher began noticing patterns that emerged from the data, she organized key points, grouping responses that seemed to address similar issues. This activity intensified once all of the focus-group, observation, and individual conversation data were available.

The results of the constant comparative analyses guided the development of the structured interview for all participants. One goal in constructing this interview was to represent every teaching practice either observed by the two external researchers during the semester or mentioned by teachers (i.e., during focus groups or one-to-one interviews). A second goal was to tap every important issue that teachers raised during the semester. That is, this structured interview was grounded in the data of observations and interactions over the course of a semester (see Bogdan & Biklen, 1982; Glaser & Strauss, 1967; Strauss, 1987; Strauss & Corbin, 1990).

Because quantifiable interview data are more acceptable to the scientific research community than more open-ended responses, most of the questions on the interview were posed so that responses could be quantified. The first two authors were also aware from their previous collaborative interview research experiences (Pressley, Schuder, et al., 1992)

that teachers like responding to Likert-scaled items, especially when many issues are tapped in an interview: Because such questions do not require constructing lengthy verbal answers, it is less taxing for teachers than open-ended questionnaires. Thus, such item structures encourage alert, reflective responding throughout the questionnaire/interview. When possible, the structured interview items were phrased using the language that the teachers had employed to describe a phenomena. Thus, although responding was structured, in that Likert-scale responses were provided, the question stems were presented in familiar terms, that reflected the teachers' own voices.

The second author, who also was involved in the group discussions, observations, and individual conversations, carefully reviewed each item and provided feedback as the structured interview draft was developed. The first author refined the structured interview draft in response to this feedback. This was only the beginning of the feedback-revision process for what would become the final questionnaire/interview.

Educator feedback about the draft of the structured interview questions. Three of the classroom teachers, the reading specialist, the in-school curriculum specialist, and the central office curriculum developer volunteered to edit a 33-page draft of potential interview items. Each reviewer was asked to evaluate the value of each item, suggest additional items if important strategies-instruction behaviors were overlooked or if the interview failed to tap any important perceptions or concerns of the strategies-instruction teachers in the school. Eliciting the educators' feedback, in particular, served as a form of member checking (e.g., Lincoln & Guba, 1985), insuring that the practices and issues the researchers identified were consistent with the practices demonstrated by the teachers and the issues the teachers had been trying to communicate.

Final, structured interview form. The first author used the reviewers' comments to revise the structured questionnaire/interview. The reviewers found the content of the items to be on target. Their suggestions focused on organizing the items, formatting some into charts, and deleting repetitive items and ones tapping infrequent practices to make the questionnaire more manageable to complete. Items having similar response formats were clustered together to minimize the effort required to respond. Within a cluster, items appeared in the same order for every teacher; however, the clusters were presented in random order for each teacher so fatigue would not differentially affect a specific set of items in the interview. The ultimate version, completed mid-January 1993, was 19 pages long with 240 items presented in 14 clusters.

The resulting questionnaire mostly tapped strategies teaching practices and teachers' perceptions of those practices, the focus of this study. One cluster of items on the questionnaire requested information about teachers' background experiences with strategies-based instruction; these responses helped us describe the participating teachers. Because the teachers offered many perceptions about the effects of strategies instruction during the semester, these perceptions also were tapped formally in a

cluster on the final questionnaire. Perceived benefits of strategies instruction confirmed in the final interview included increased awareness of reading processes and use of critical thinking skills, improved self-confidence and enjoyment as readers, more extensive use of background knowledge, better comprehension and increased interpretation of text, and improved interactions among students during reading. Because the perceptions-of-effects data essentially replicated the findings of Pressley, Schuder, et al. (1992), we do not consider them in detail in this article.

The other 12 clusters of items in the structured interview were as follows:

- Specific instructional practices:

  Forty-four items rated on a *many times a day* to *never* scale (e.g., I explain how to use a specific strategy; When I think aloud, I explain the reasoning or thought processes behind my responses; When I see a student using a strategy, I explicitly point that out).

  One open-ended item requesting analogies used to explain strategies use to students.

- Description of teacher's instruction:

  Ten open-ended items (e.g., Describe any problems your students have in participating appropriately in discussions; Have you explained strategies instruction to parents? . . . If so, what impact has this had?).

  One question tapping whether strategy prompts, bulletin boards, or cards are used, rated on an *always* to *never* scale.

- Questions tapping the extent of instructional emphasis on aspects of literacy, such as decoding, literal comprehension, and understanding of gist as part of instruction:

  Nine items rated on an *extensively* to *almost never* scale.

- Extent and usefulness of strategies instruction in content areas:

  Participants indicated frequency of strategy instruction for five content areas on an *extensive* to *never* scale; they indicated usefulness of the strategies for the same content areas on an *excellent* to *terrible* scale.

- Extent and usefulness of teaching each strategy:

  Participants indicated frequency of teaching each of 14 strategies on an *extensive* to *never* scale; they indicated usefulness of each strategy across the curriculum on an *excellent* to *terrible* scale.

- General experiences with and perceptions about strategies-based instruction:

  Six open-ended questions (e.g., What kind of additional experience, support, or train-

ing do you think would improve your strategies instruction at this time?).

One question rated on a *completely* to *not at all* scale (To what extent do you "buy into" strategies-based instruction?).

- Ease or difficulty of various aspects of strategies instruction:

  Seven questions rated on a *very easy* to *very difficult* scale (e.g., Giving up control and letting students lead the discussion).

  One question requiring rank ordering of factors that teachers reported can make a text difficult to use for strategies instruction.

- Confidence with aspects of strategies instruction:

  Nineteen potentially challenging aspects of strategies instruction rated on a *very confident* to *very uneasy* scale (e.g., I know what to do when a child doesn't understand the gist of what he or she has read).

- Perceived importance of learning and teaching components in strategies instruction:

  Four items rated on an *extremely important* to *not important at all* scale (e.g., How important is it for students to use terms like "strategy," "predict," "background knowledge" . . . ?).

- Compatibility with various parts of the curriculum:

  Six items rated on an *entirely compatible* to *entirely incompatible* scale (e.g., How compatible is strategies instruction with the district's mathematics curriculum?).

- Potential problematic issues in strategies instruction:

  Five items rated on a *strongly agree* to *strongly disagree* scale (e.g., I'm concerned with how long it takes to get through a story/chapter with strategies discussions).

  Two open-ended questions pertaining to one strategy cited as potentially problematic by teachers in focus groups and individual interviews (e.g., List strengths, if any, you see in the skip-it strategy).

- Importance of various resources in becoming a strategies teacher:

  Twelve items rated on an *extremely important* to *not important at all* scale (e.g., Having a trainer coach and give me feedback in my classroom).

  One open-ended item asking about resources not mentioned in the 12 items.

A cover letter accompanying the printed interview reiterated that it was designed to tap issues the teachers had identified as important. Individual, face-to-face interviews permitting

elaboration of the written responses were scheduled at the convenience of the teachers, at times when classroom coverage could be provided. The questionnaire was provided in advance of the face-to-face interview so that there were no surprises for the teachers during the final interview and no time pressure in processing the printed questionnaire. The cover letter reminded teachers that only group responses would be reported. The letter also suggested a range of ways in which teachers might respond to receiving the written questionnaire: (a) do nothing; (b) look it over in anticipation of the interview; (c) respond in writing to all or some of the questions in advance of the face-to-face meeting. Teachers were encouraged to add written comments to the questions if they wished to clarify their responses, indicate objections, or accent their responses with extra space provided after each question for teacher reactions. The printed questionnaire was distributed at the end of January, approximately 2 weeks in advance of the first face-to-face interviews.

Face-to-face interview. The final step in the data collection was the face-to-face interview, carried out by the first author. Interviews were conducted in the school's conference room during the school day; substitute teaching coverage was provided for the teacher. The 45-minute interviews were scheduled in mid-February and early March. During each meeting, the external researcher and the teacher went through the questionnaire systematically. This provided the teachers an opportunity to complete items not yet completed (i.e., teachers completed most of the items before coming to the face-to-face meeting) and to reflect on responses already generated, changing any they felt needed to be changed. We take as an indication of the reliability of the teachers' responses the fact that almost no responses were changed dramatically on reflection during the face-to-face meetings. During this session, teachers elaborated orally on written responses as they wished.

After the results of the questionnaire were tabulated, the external researchers shared the findings at a support meeting that a group of the teachers had requested. This meeting focused on brainstorming and trouble-shooting among more experienced strategies teachers who were interested in going even further with their strategies instruction. The tone of the meeting was informal, with the researchers responding to questions the teachers directed at them. The researchers' role was to provide information about research relevant to the issues the teachers were facing. The teachers were interested in hearing about the results of the current study, which reinforced the concept that these issues were real concerns across the group of teachers.

RESULTS

For the many Likert-type responses given on the interview, ratings were transformed to numerical values. Some were scored from -2 to +2 (e.g., *strongly disagree* to *strongly agree*, with 0 = *neither agree nor disagree*). Other scale values (e.g., when there was a continuum without poles on either side of a point of indifference) were scored from 0 to 4

Table 1. Extent of Instructional Emphasis on Various Aspects of Reading (Frequencies)

	Extensively	Frequently	Occasionally	Rarely	Almost Never
Decoding	0	3	6	1	2
Literal comprehension	1	4	7	0	0
Understanding the gist	6	6	0	0	0
Personal interpretations	5	5	2	0	0
Thought processes	3	6	3	0	0
Story structure	4	6	2	0	0
Expository text structure	1	6	4	0	0
Genres/literary techniques	2	5	5	0	0
Language structure	0	5	6	1	0

or 0 to 5. Written and verbal responses to open-ended questions on the questionnaire, as well as informal interview responses, were analyzed by a constant comparison approach like that used to develop the structured interview.

One reason for clustering the items on the questionnaire was that clusters or categories of issues emerged from the observation and informal interview data (see Methods). We have organized the presentation of results to reflect the clusters of issues tapped on the questionnaire. Although frequencies, means, and standard deviations were calculated on all quantified responses to the structured interview, we present only as much detail as required to support the conclusions we believe are warranted based on the final interview data. In addition, because no teacher was forced to answer any questions, sometimes the total number of responding teachers was short of the 12 participating teachers.

Teaching Practices

Diverse and complex teaching was observed as part of transactional strategies instruction. The final interview provided information about various aspects of teaching.

Emphasis in reading. We asked teachers how much they emphasized various aspects of reading in their instruction, with ratings provided on an *extensively* to *almost never* scale (see Table 1 and Figure 1). For example, all teachers indicated emphasizing the understanding of gist. Teachers also reported emphasizing personal interpretations, story structure, students' thought processes, expository text struc-

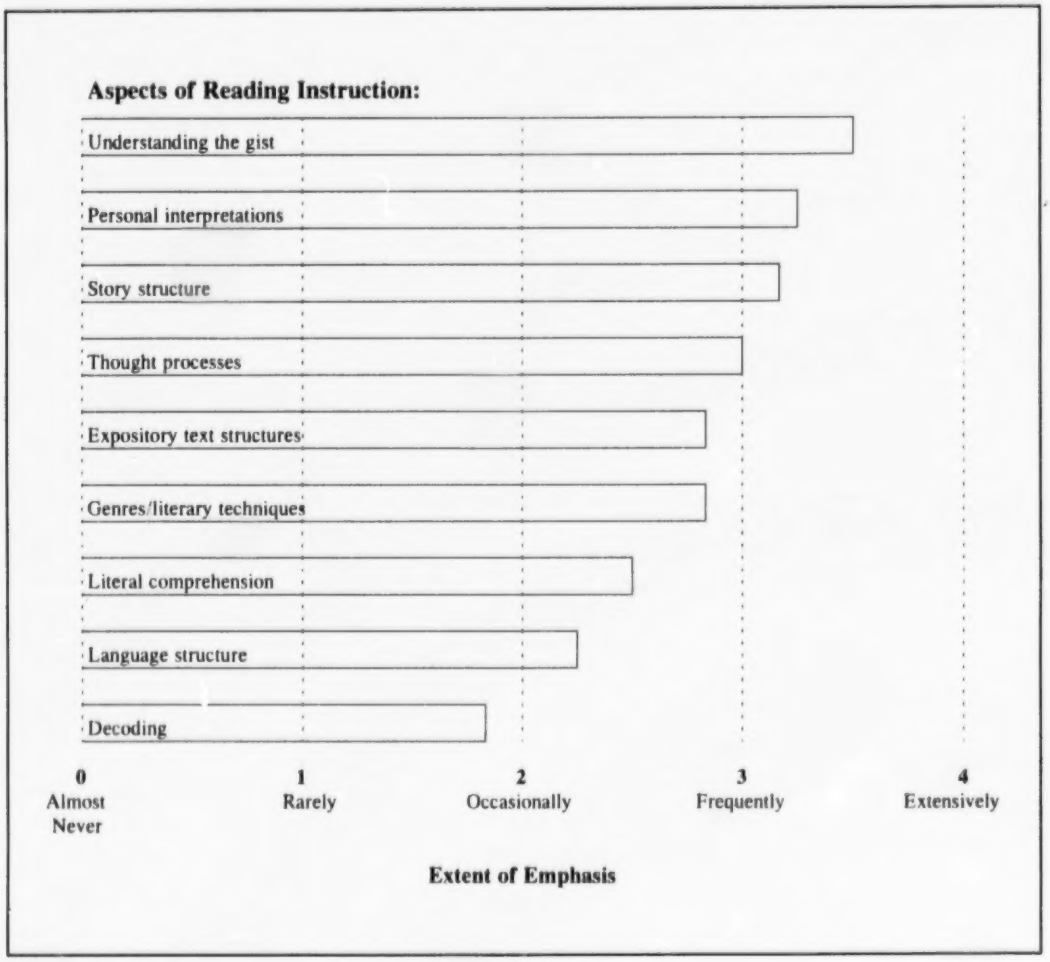

Figure 1. Teachers' ratings of instructional emphasis on various aspects of reading (Means)

ture, and genre or literary techniques. The teachers reported giving less emphasis to other aspects of reading: literal comprehension, language structure, and decoding. In short, the teachers reported that their reading instruction was consistent with the meaning-making goals of the transactional-strategies-instruction curriculum they were attempting to implement.

Table 2. Extent of Teaching of each Strategy (Frequencies)

	Extensive	Frequent	Occasional	Rare	Never
Think aloud	3	8	1	0	0
Prediction	9	3	0	0	0
Visualization	4	7	1	0	0
Summarization	6	5	1	0	0
Gist	5	7	0	0	0
Manipulation	5	5	1	1	0
Background knowledge	7	5	0	0	0
Fix-it kit as a whole	4	3	3	2	0
Skip it	3	5	3	1	0
Look back/reread	3	7	2	0	0
Picture clues	9	3	0	0	0
Guess/substitute	2	6	3	1	0
Sound it out	1	5	4	2	0

Strategies instruction in the content areas. The extent of teaching the strategies in each content area was rated on a scale: *extensive* (4), *frequent* (3), *occasional* (2), *rare* (1), *never* (0). The reported extent of teaching varied with content area (see Figure 2): reading ($M = 3.58$, $SD = 0.67$), math ($M = 2.92$, $SD = 0.79$), science ($M = 2.33$, $SD = 0.78$), and social studies ($M = 1.91$, $SD = 1.04$).

Teaching of particular strategies. There was variability in the extent of teaching particular strategies as well (see Table 2 and Figure 2). Teachers rated their instruction of the following strategies as *frequent* to *extensive*: prediction, use of picture clues to identify a word, use of background knowledge, gist, summarization, visualization, thinking-aloud, manipulation of objects/pantomiming, and looking back/rereading when confused. The remaining three strategies received mean ratings *occasional* to *frequent*: skipping an unknown word, guessing/substituting for an unknown word, and sounding out an unknown word.

Frequency of various strategies-instruction activities. The teachers rated how often they carried out particular instructional activities with respect to strategies. The instructional activities included in the interview had been observed or discussed during observations, focus groups, or preliminary individual interviews. These ratings were provided on the following scale: *many times a day* (5), *a few times a day* (4), *once a day* (3), *a few times a week* (2), *a few times a month* (1), *never* (0). There was great variability among the various instructional techniques. Reported means and standard deviations for each activity are summarized in Table 3 and Figure 3.

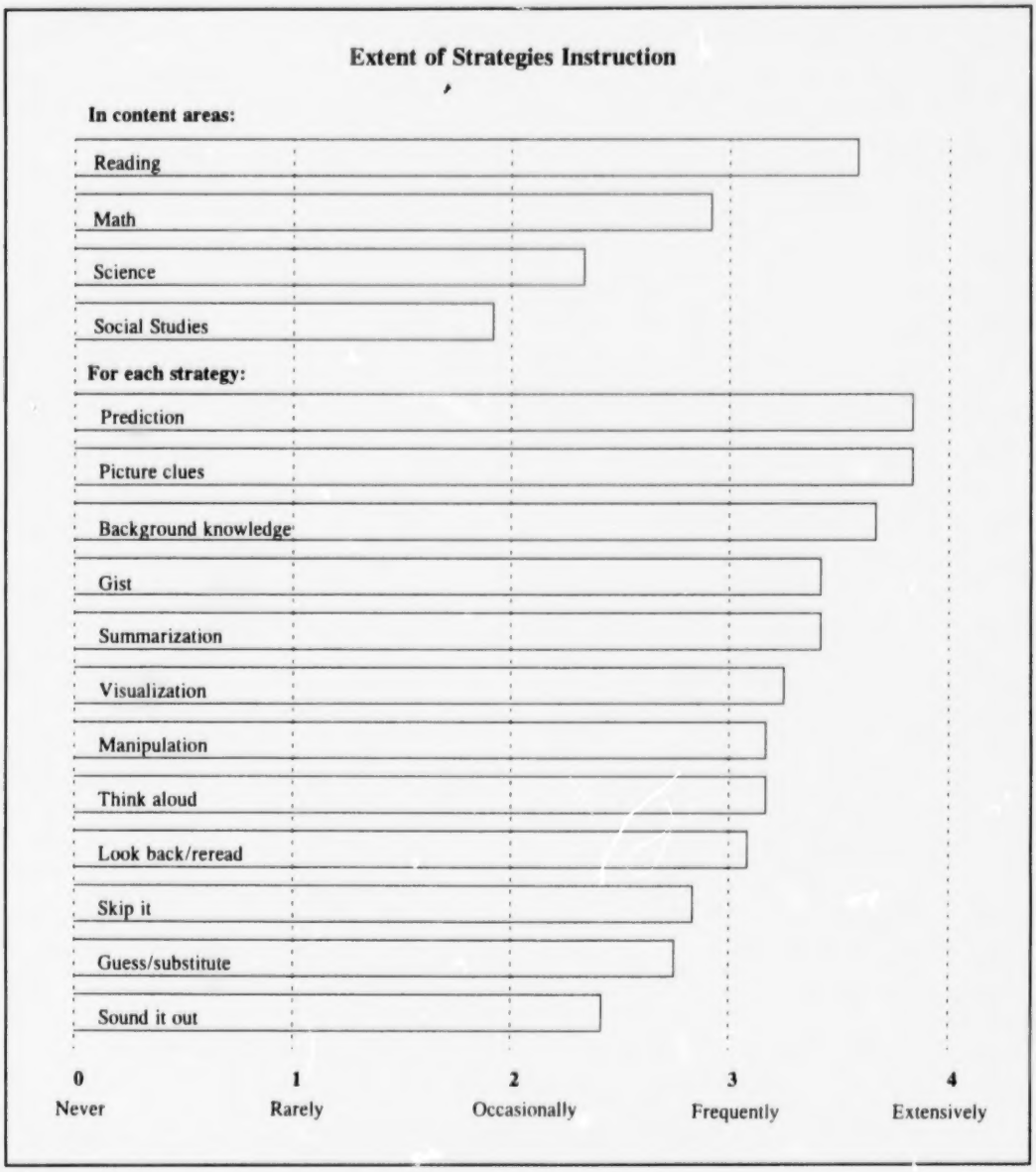

Figure 2. Teachers' ratings of their extent of strategies instruction across content areas and across strategies (Means)

Table 3. Reported Frequency of Various Instructional Activities

INSTRUCTIONAL BEHAVIOR	*M*	*SD*
Presenting Strategies By Explaining and Modeling:		
Use strategy terms	4.82	0.40
Think aloud	4.00	0.89
Tell students purpose of lesson before reading	3.45	1.21
Talk about personal use of strategies, how strategies help me	3.10	1.10
Explain reasoning (i.e., thought processes behind modeled strategies)	3.10	1.20
Model use of specific strategies	3.00	0.89
Emphasize that strategies are a means for achieving other goals	2.91	1.30
Define or explain strategy term	2.60	1.26
Explain how to use a specific strategy	2.40	0.84
Add strategies or modify the strategies that were presented	2.30	1.77
Emphasize coordinating strategies/knowing when to use	2.00	1.63
Use analogies to explain strategies	1.40	1.51
Prompting Students to be Strategic:		
Encourage students to use strategy terms	4.55	0.69
Cue students to check their predictions during a story	3.64	1.12
Cue students to choose their own strategy to decode a word	3.64	1.21
Ask students to predict, with no other specific prompt	3.55	1.44
Ask students to think aloud, with no other specific prompt	3.50	1.43
Explicitly refer to bulletin boards, cards, other strategy cues	3.45	1.44
Ask students to think aloud, with more specific prompt	3.33	1.12
Cue students to check their prediction at the end of a story	3.18	0.98
Cue students to use a specific comprehension strategy	3.15	1.16
Ask students to predict, providing them a prompt	3.00	1.15
Cue students to choose their own comprehension strategy	3.00	1.55
Ask broad questions about students' background knowledge (as a strategy prompt)	3.00	1.05
Cue students to use a specific strategy to decode a word	2.70	1.49
Ask students how well they think they read during the lesson (i.e., prompting reflection on benefits of the active reading that has occurred)	1.73	2.00
Responding to Students' Strategy Attempts:		
Ask students to explain the reasoning behind their responses (i.e., including strategically mediated responses	4.45	0.69
Restate students' strategic/interpretive responses	4.18	0.75
Praise students for using strategies	4.09	1.22
Explicitly point out when a student is using a strategy	3.64	0.92
Use "teachable moments" to discuss strategies	2.91	1.76
Let another student suggest a strategy	2.60	0.84
Ask whether strategy helped student understand/enjoy text (i.e., prompting reflection on strategy benefits)	2.45	1.69
Explain how strategy helped student understand/enjoy text	1.60	1.58

Table 3. (continued)

INSTRUCTIONAL BEHAVIOR	*M*	*SD*
Instructional Grouping:		
Use heterogenous grouping for strategies instruction	2.90	1.52
Use cooperative learning strategies when teaching strategies	2.00	1.26
Conventional Teaching Behaviors:		
Use wait time	4.27	1.10
Ask students whether they liked the story	3.45	1.44
Ask specific background knowledge before reading	3.30	1.16
Ask students specific questions about events in the story	2.91	1.45
Guide students to understanding meaning intended by author	2.90	0.88
Relate text to another text students have read	2.73	1.68
Guide students to understand a specific aspect of a text	2.67	1.00
Ask, "Does it make sense?" if a student misreads a word	2.36	1.57

Note. Means (*M*) correspond to the following scale values: many times a day (5), a few times a day (4), once a day (3), a few times a week (2), a few times a month (1), never (0).

In Table 3 and Figure 3, we organized the teaching practices into five clusters that roughly captured the different types of teaching processes observed: There were (a) *teacher presentations*, (b) *teacher prompts for students to engage in strategic processing*, and (c) *teacher responses to student strategy attempts*, all of which unambiguously supported student use of strategies. There was a two-item cluster involving (d) *instructional grouping*, with both of the grouping options potentially supportive of strategic functioning. Finally, there were also (e) *more conventional teaching behaviors*, some of which supported strategies instruction, but many of which were consistent with teachers asking questions in anticipation of particular responses (i.e., initiate-respond-evaluate cycles; e.g., Mehan, 1979), an approach not particularly encouraging of strategic functioning (see Gaskins et al., 1993).

Teacher Perceptions About Strategy Instruction

During preliminary interviews, teachers offered many perceptions about strategies instruction, which were explored systematically in the final interview. These questions about perceptions especially provided information about teacher commitment to strategies instruction.

Perceived usefulness of strategies instruction. A possibility that became clear during observations and preliminary interviews was that the extent of strategies instruction might depend on teachers perceiving it to be useful.

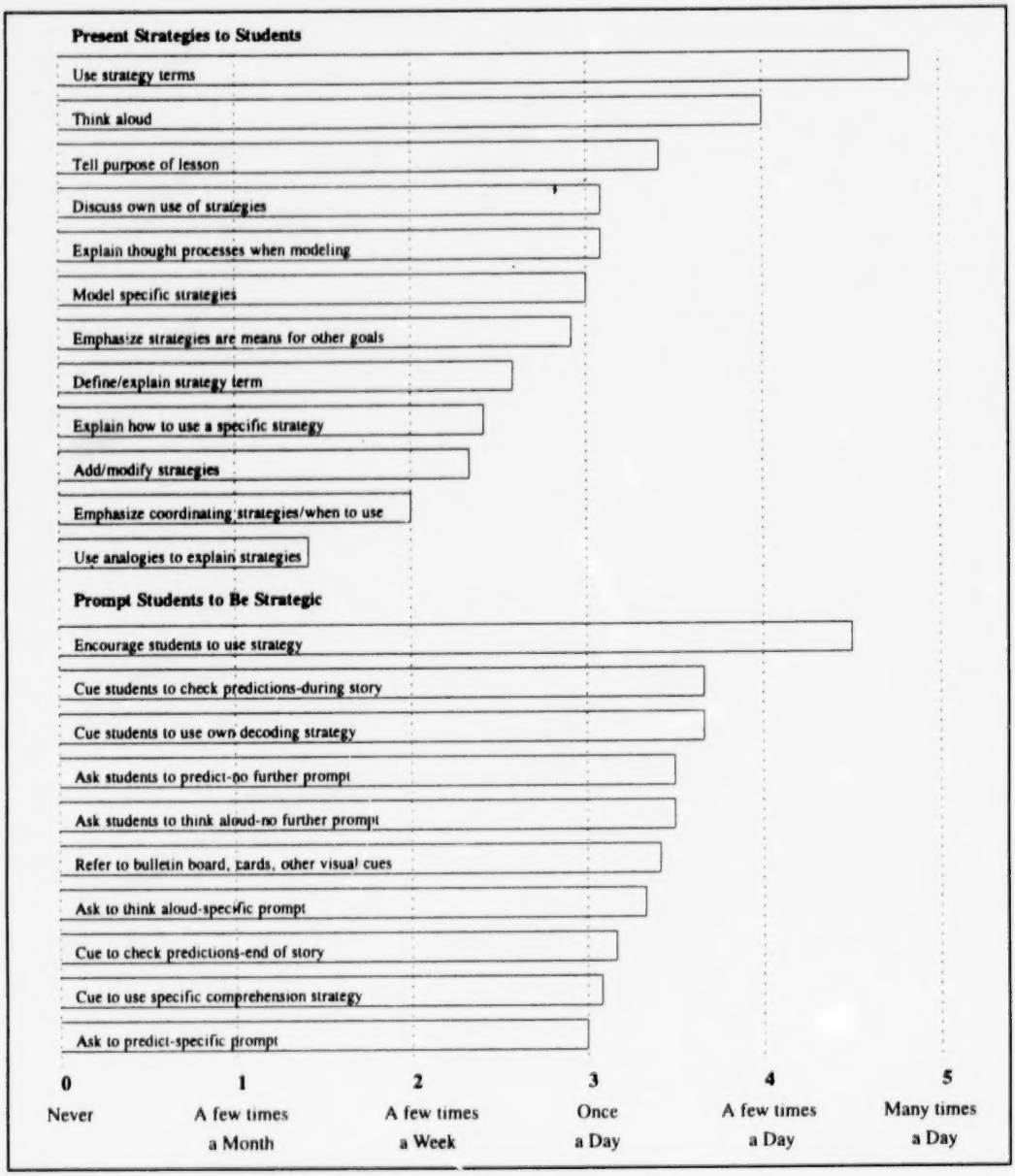
Present Strategies to Students
Use strategy terms
Think aloud
Tell purpose of lesson
Discuss own use of strategies
Explain thought processes when modeling
Model specific strategies
Emphasize strategies are means for other goals
Define/explain strategy term
Explain how to use a specific strategy
Add/modify strategies
Emphasize coordinating strategies/when to use
Use analogies to explain strategies
Prompt Students to Be Strategic
Encourage students to use strategy
Cue students to check predictions-during story
Cue students to use own decoding strategy
Ask students to predict-no further prompt
Ask students to think aloud-no further prompt
Refer to bulletin board, cards, other visual cues
Ask to think aloud-specific prompt
Cue to check predictions-end of story
Cue to use specific comprehension strategy
Ask to predict-specific prompt
0 Never
1 A few times a Month
2 A few times a Week
3 Once a Day
4 A few times a Day
5 Many times a Day

Figure 3. Teachers' ratings of the frequency of their instructional practices (Means)

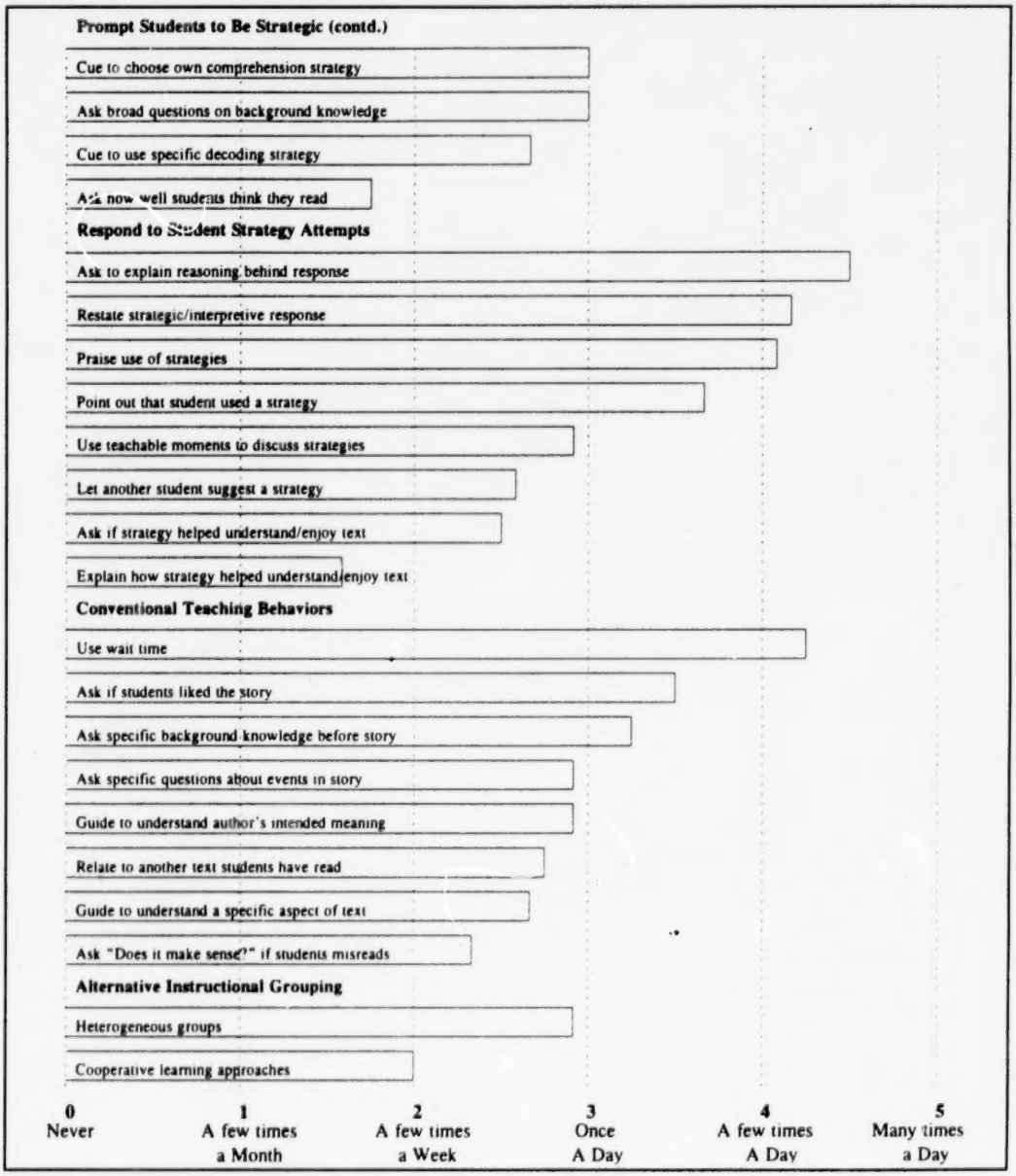
Prompt Students to Be Strategic (contd.)
Cue to choose own comprehension strategy
Ask broad questions on background knowledge
Cue to use specific decoding strategy
Ask how well students think they read
Respond to Student Strategy Attempts
Ask to explain reasoning behind response
Restate strategic/interpretive response
Praise use of strategies
Point out that student used a strategy
Use teachable moments to discuss strategies
Let another student suggest a strategy
Ask if strategy helped understand/enjoy text
Explain how strategy helped understand/enjoy text
Conventional Teaching Behaviors
Use wait time
Ask if students liked the story
Ask specific background knowledge before story
Ask specific questions about events in story
Guide to understand author's intended meaning
Relate to another text students have read
Guide to understand a specific aspect of text
Ask "Does it make sense?" if students misreads
Alternative Instructional Grouping
Heterogeneous groups
Cooperative learning approaches
0 Never
1 A few times a Month
2 A few times a Week
3 Once A Day
4 A few times A Day
5 Many times a Day

Figure 3. (continued)

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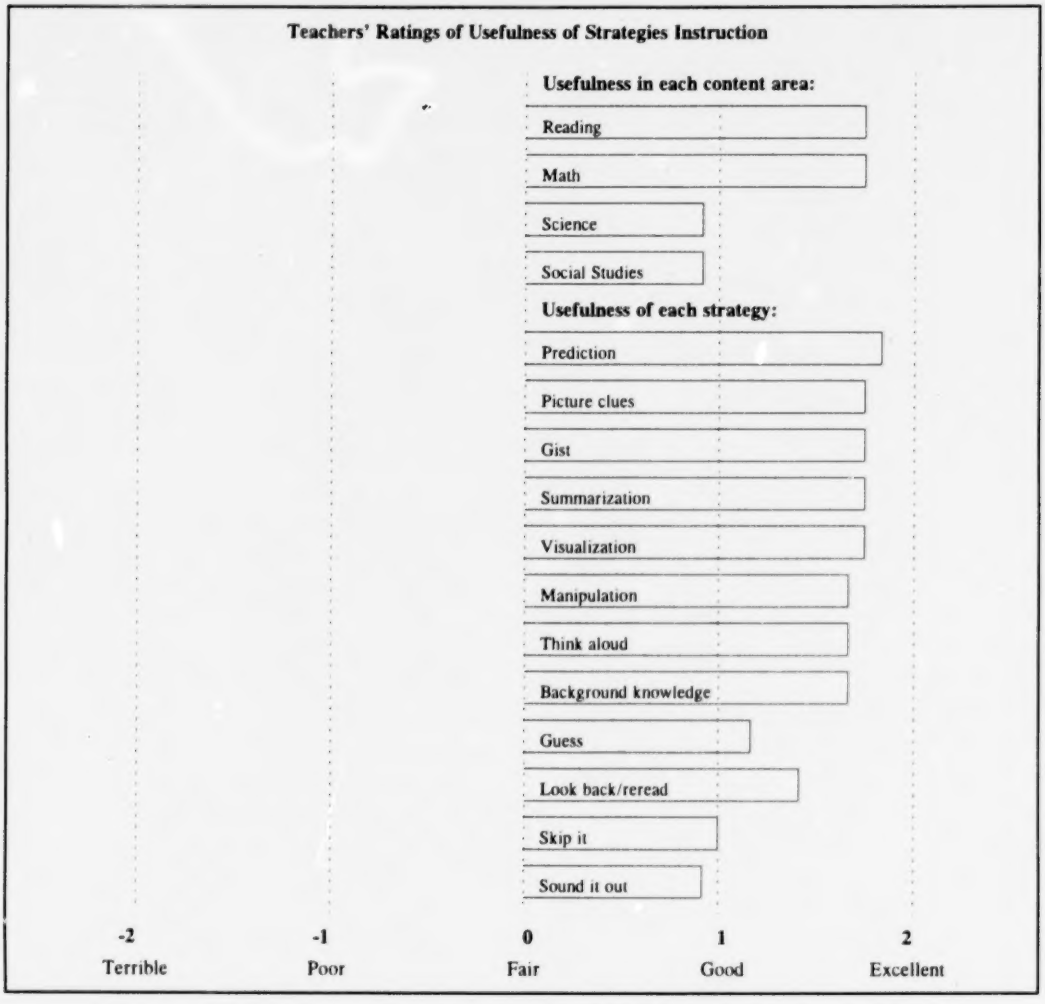

Figure 4. Teachers' Ratings of Usefulness of Strategies Instruction (Means)

Thus, the perceived usefulness of strategies instruction was studied in this investigation, both with respect to the content areas in which strategies instruction was expected to occur and the specific strategies in the instructional package (see Figure 4).

A common expression of endorsement in this teacher community is "buying into it." When asked whether they "bought into" strategies instruction, four teachers indicated completely, five responded considerably, and two responded moderately. When asked how useful

Table 4. Teachers' Perceptions of Strategies-Based Instruction Professional Development Needs

Type of Support	*M*	*SD*[a]
Seeing videotapes of strategies-based instruction	3.73	0.47
Having a trainer model in my classroom	3.58	0.51
Peer conferencing about attempts at strategies-based instruction	3.36	0.81
Having a trainer coach and give me feedback in my classroom	3.33	0.65
Having a peer coach and give me feedback in my classroom	3.18	0.75
Having a peer model in my classroom	3.09	0.94
Discussing and critiquing videotapes of strategies-based instruction	3.08	0.79
Receiving scripted lessons to practice teaching strategies-based instruction	2.83	1.11
Receiving information about research on strategies-based instruction	2.75	0.97
Receiving prepackaged materials, such as bulletin boards	2.50	1.17

[a] On scale where 4 = *extremely important*, 3 = *considerably important*, 2 = *moderately important*, 1 = *not very important*, 0 = *not important at all*.

strategies instruction was, six of nine respondents rated it as excellent and three as good.

Although the teachers felt that strategies-based instruction was valuable in general, their perceptions of its value differed across content areas (see Figure 4). Nine teachers rated strategies-based instruction as excellent for reading; the remaining three rated it as good. The exact same distribution of ratings was obtained for math. In contrast, the teachers were less convinced of the utility of strategies instruction in science (four excellent ratings, three good, five fair) and social studies (three excellent ratings, four good, two fair, one poor). Although these perceptions of usefulness were all in the positive range, they varied, with a clear parallel between reported strategies instruction in the content area and perceived usefulness of strategies instruction in the content area (compare Figures 2 and 4).

Perceived usefulness of particular strategies. In general, on a -2 (*terrible*) to +2 (*excellent*) scale, the teachers rated all of the specific strategies in the curriculum as useful (see Figure 4). Prediction received the highest mean rating of 1.83. The strategies with the lowest mean ratings were "sound it out" (0.92) and "skip it" (1.00).

Perceived impact of strategies-based instruction on teachers compared to previous instruction. The teachers felt that transactional strategies instruction impacted positively on them. Their mean rating on a +2 (*much better*) to -2 (*much worse*) scale was 1.58 (*SD* = 0.67) for "enjoyment when teaching reading," and 1.25 (*SD* = 0.75) for "encouragement of student independence."

Importance of various professional development activities on development as a strategies-based teacher. The teachers had definite impressions about the usefulness of various aspects of professional development offered to them, expressed through items rated on an *extremely important* to *not important at all* scale, with the intermediate ratings being *considerably important*, *moderately important*, and *somewhat important* (see Figure 5 and Table 4).

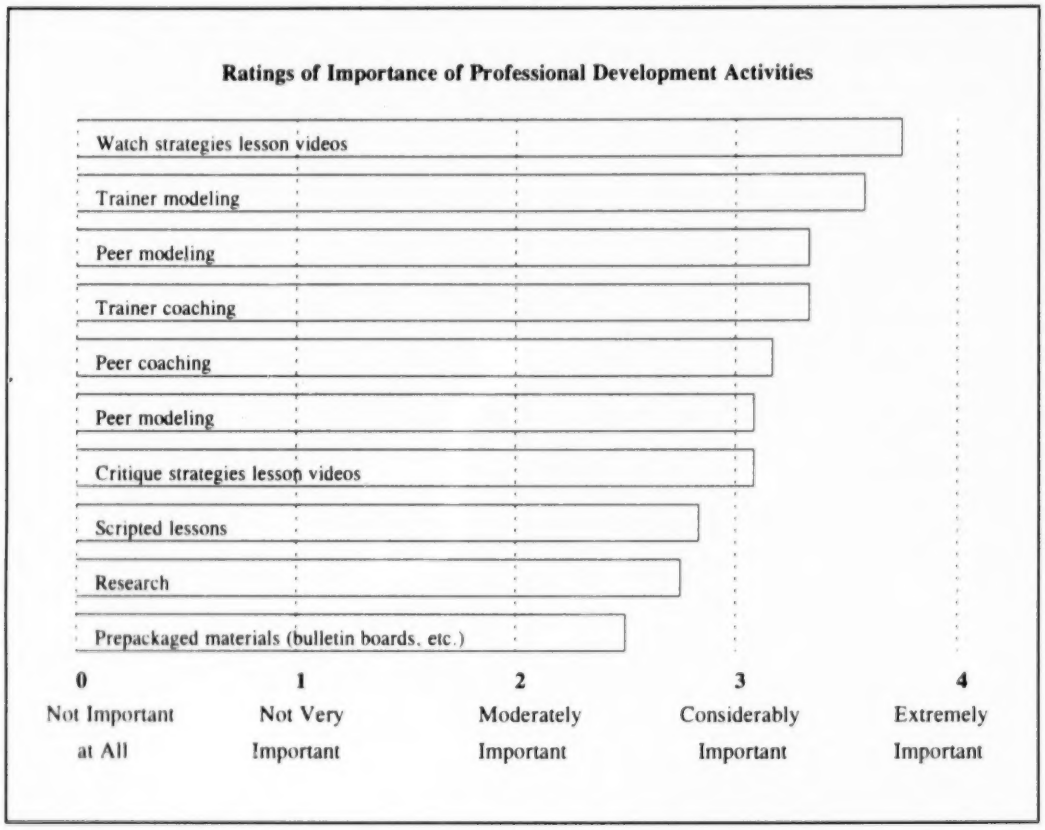

Figure 5. Teachers' perceptions of usefulness of professional development activities (Means)

Eight of the 11 teachers indicated that seeing videotaped models of strategies instruction was extremely important to them. Eight of 11 teachers found discussing and critiquing videotapes of strategies teaching to be important. Seven felt that having a trainer model in their classroom was extremely important, and the other five rated it as considerably important. Five of the 11 teachers said that having a peer (i.e., another teacher) to model strategies instruction in their classroom was extremely important, 2 found this considerably important, and 4 said it was moderately important. All 12 of the teachers indicated that they were very comfortable having someone model in their classroom.

Coaching of the teacher in the classroom by a trainer who provided feedback was considered extremely important to five teachers and considerably important to six more. Having a peer to coach the teacher in the classroom and provide feedback was seen as extremely important by four teachers and considerably important by five teachers. Teachers were less comfortable about having someone coach them than they were about having someone model in their classroom (i.e., four said they felt somewhat uncomfortable about receiving coaching).

Eight of the 12 teachers thought that receiving scripted practice lessons was either extremely important or considerably important to their professional development as strategies teachers. Prepackaged materials, such as bulletin boards, were viewed favorably as well, with three teachers seeing them as extremely important, two as considerably important, and six as moderately important.

Six of the 11 teachers thought that peer conferencing as they attempted strategies instruction was extremely important. The other 5 felt that such discussions with peers were considerably or moderately important.

Research findings were often used by the school district to justify strategies-based instruction. The research had some impact on the teachers, with five of them viewing it as extremely important or considerably important, and the remaining seven finding it moderately important.

In summary, all of the professional development resources offered to these teachers were viewed as valuable, although some were seen as more important than others. Notably, every teacher considered it important to receive the extensive professional development that was offered, including the most experienced transactional-strategies-instruction teachers in the study.

Challenges of Strategies-Based Instruction

During the focus groups and preliminary interviews, teachers raised several important concerns about their own transactional strategies instruction. When probed on the questionnaire, some proved to be greater concerns than others. Most of these concerns could be classified either as particular challenges teachers faced as they tried to implement strategies instruction or as areas in which they lacked confidence in their strategies teaching. The salient challenges in implementing transactional strategies instruction were the following:

- Nine of the 12 teachers indicated that they felt strategies-based instruction takes too much time. When asked whether they thought that the extended discussions that are part of strategy use disrupt the flow of reading, the responses varied: four teachers agreed, five were neutral, and three disagreed or strongly disagreed.

- An important issue for these teachers was giving up control and letting students lead discussions; 9 of the 12 teachers rated this as somewhat difficult on a scale from *very easy* to *very difficult*.

- From the first focus groups, teachers expressed concerns about difficulties in locating texts that are appropriate for strategies-

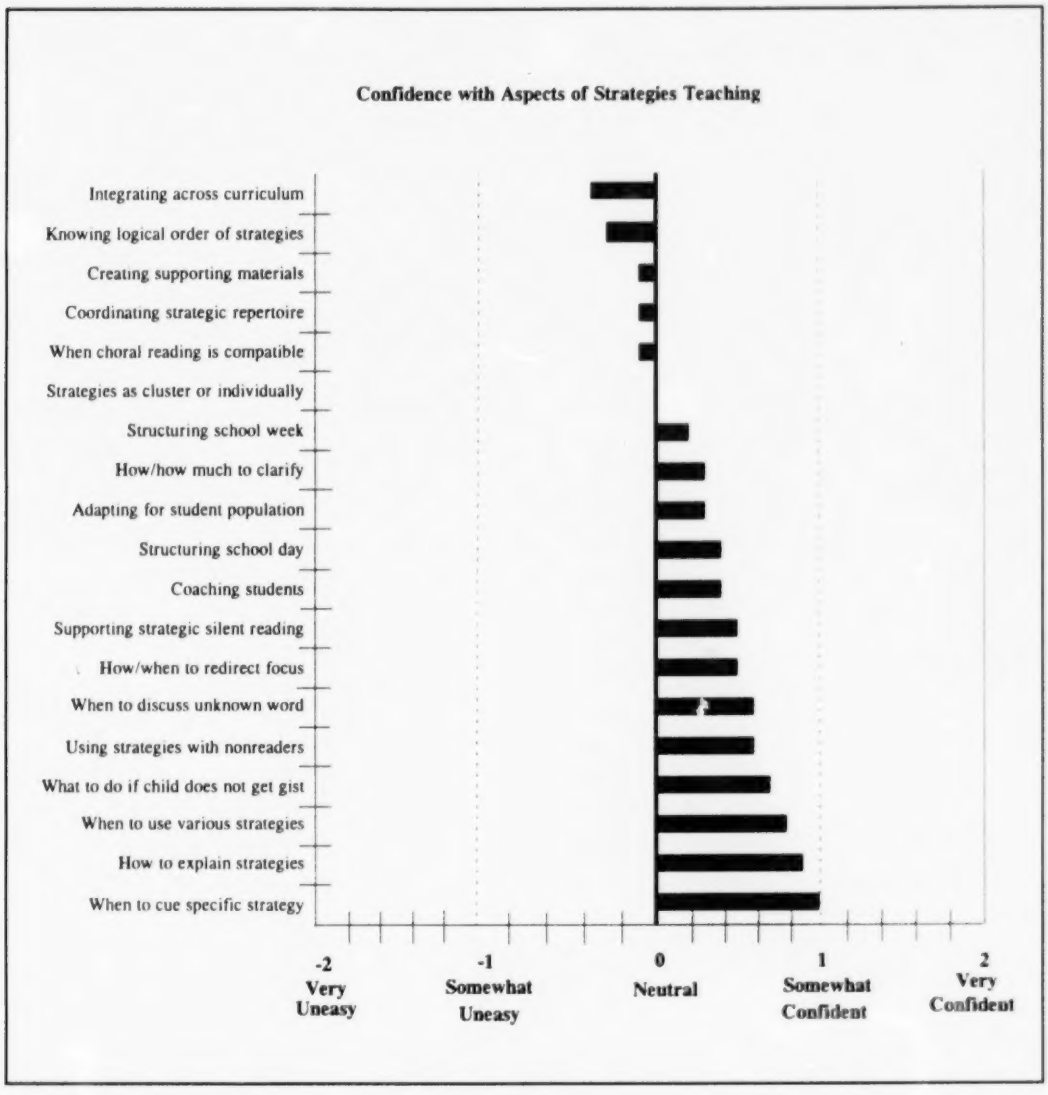
Confidence with Aspects of Strategies Teaching
Integrating across curriculum
Knowing logical order of strategies
Creating supporting materials
Coordinating strategic repertoire
When choral reading is compatible
Strategies as cluster or individually
Structuring school week
How/how much to clarify
Adapting for student population
Structuring school day
Coaching students
Supporting strategic silent reading
How/when to redirect focus
When to discuss unknown word
Using strategies with nonreaders
What to do if child does not get gist
When to use various strategies
How to explain strategies
When to cue specific strategy
-2 Very Uneasy
-1 Somewhat Uneasy
0 Neutral
1 Somewhat Confident
2 Very Confident

Figure 6. Teachers' confidence with various aspects of strategies instruction (Means)

based instruction. When asked to rank the various factors mentioned as contributing to this difficulty, the teachers indicated the leading reason was that many texts were not rich

enough to warrant use of strategies, followed by concerns that some texts were too easy, some too difficult, some had been read by students already, and for some stories, students had too little background knowledge.

- Despite a general perception that assessment of reading competency was easier in the strategies-instruction curriculum than in the previous curriculum (mean rating = 0.92 on a +2 [*much better*] to -2 [*much worse*] scale) there was substantial variability in this opinion (i.e., *SD* = 1.31 for this item). During the face-to-face final interviews, it became clear that this variability reflected that some teachers found it more difficult to assign an objective grade when using strategies instruction, although they believed they had a better understanding of the child's comprehension.

The issue of the relationship of strategies instruction to whole language came up in preliminary interviews and focus groups in this study, a potential concern because whole language is the overall approach to reading instruction most favored in the district. Therefore, we asked teachers about the compatibility of strategies-based instruction and whole language. Only nine of the teachers felt they knew enough about whole language to respond, with five of these nine citing strategies instruction as entirely compatible with whole language, and three others indicating it was mostly compatible. This is sensible given the emphasis in whole language on meaning-making and the commitment of these teachers to emphasize meaning-making in their strategies-based reading instruction.

Confidence About Aspects of Strategies Teaching

Throughout the study, the most salient concern of teachers was lack of confidence in their strategies instruction. Thus, in the final interview, teachers were asked about their confidence in various aspects of their strategies instruction, rated on a -2 (*very uneasy*) to +2 (*very confident*) scale (see Figure 6).

Teachers' lack of confidence with respect to some important aspects of strategies instruction was apparent in this final interview. Although the variability in the ratings was high for each of the following 6 items (i.e., all *SD*s greater than 1), the overall mean rating was on the uneasy side of the scale for each of them. The teachers lacked confidence in their ability to determine the following:

- How to carry out strategies instruction across the curriculum
- Whether there is a logical or preferred order for teaching strategies
- How to create supporting materials
- How to teach a coordinated repertoire of strategies
- When choral reading is compatible with strategies-based instruction

- Whether to teach strategies one at a time or as a cluster

More positively, at least 9 of 12 teachers were somewhat or very confident with respect to three other components, specifically:

- When it is appropriate to cue a student to use a specific strategy
- How to provide explanations of individual strategies
- When it is appropriate to use particular strategies during reading

The remaining 10 items tapping teacher confidence were rated in the *somewhat confident* part of the rating scale on average, including:

- How to structure the school day when teaching strategies-based instruction
- How to structure strategies-based instruction over the course of a week
- How to use strategies with nonreaders (students who cannot decode)
- How to adapt strategies for grade level and range of student abilities
- How to encourage independent strategies use during silent reading
- How and when to redirect students' focus when they stray from the topic of a story
- When and how to coach students experiencing difficulties during reading
- What to do when a child doesn't understand the gist of what he or she has read
- When to discuss a word that isn't understood and when simply to continue reading
- How much (and what kinds of) clarification to give when students don't "get it"

DISCUSSION

The teaching of strategies revealed here is consistent with the pedagogical philosophy embodied in the strategies instruction program by its developers (Schuder, 1993). In short, there was an emphasis on encouraging students to use strategies to create meaning—strategies taught through teacher modeling, explanations, and student practice as part of reading high-quality literature (see Duffy et al., 1987; Pearson & Gallagher, 1983). A number of specific issues about strategies instruction, informed by the observations and interview responses, are summarized here.

A Large Repertoire of Teaching Practices

A rich repertoire of teaching approaches was documented. The 44 teaching practices in Table 3 and Figure 3 were both observed during classroom teaching of strategies and confirmed as occurring during the teacher interviews. Most of these practices can be categorized as supporting the pedagogy of explicit explanations, modeling, and guided

practice. Thus, teachers employed several approaches when presenting and explaining strategies. For example, they used strategies terms, thought aloud, informed the students of the purpose of the lesson, referred to support materials (e.g., bulletin boards), discussed the usefulness of strategies, modeled the use of strategies, and explained why the modeled strategies are important. Teachers also extensively prompted students to use the strategies they were learning and to think about their use of strategic processes: Among other things, strategies teachers encouraged students to use strategy terms, explain the reasoning behind their thinking and use of strategies, predict and check their predictions as they read, think aloud, and elect strategies as needed to facilitate the decoding and understanding of text. Often, students were cued to use strategies through questioning, such as teacher requests about background knowledge students might be able to relate to a reading or inquiries about whether students noticed the effectiveness of the strategies they used. Strategies teachers responded to their students as they attempted to use strategies. For example, they restated student responses, praised the use of strategies, and used "teachable moments" to elaborate and extend strategies instruction. In short, the important goal of fleshing out the general understanding that strategies instruction involves modeling, explanations of strategies, and scaffolded student practice of strategies is fulfilled by this study. Strategies instruction involves not only teacher presentations, but also extensive, responsive prompting and scaffolding of student use of and reflection on strategies.

A particularly interesting insight in this study is that strategy instruction was mixed with many elements of traditional teaching. The teachers used wait time and told students in advance what the story was about, asking students to recall related background knowledge. Perhaps more disappointing, there was more passive question asking and question answering (i.e., teacher initiates question–student responds–teacher evaluates; Mehan, 1979) observed in this school than in other transactional strategies instruction settings (see Gaskins et al., 1993). Disappointing as well, and inconsistent with our past observations of veteran strategies teachers (see Pressley, El-Dinary, et al., 1992), were explicit teacher attempts to shape student interpretations to conventional interpretations.

Frequency of Explicit Instruction

Not only is this study informative about the range of teaching processes involved in strategies teaching, it also is informative about the relative importance of the various teaching practices. Some readers of our previous work (see Pressley, El-Dinary, et al., 1992) might be surprised at the low reported frequencies of modeling and explaining strategies relative to other instructional practices (i.e., they were certainly not the most frequently reported teaching behaviors). Our previous work with transactional strategies instruction in this district focused on instruction when strategies were first introduced to students. The study reported here better reflects teaching behaviors after strategies instruction is well on its way. Yes, teacher modeling and explanations contin-

to occur, but they are part of a mix of behaviors, many of which are aimed at stimulating students to use the strategies rather than watch the teacher do so or listen to the teacher's explanation. Thus, coaching-related practices were among the most frequently reported instructional approaches.

Substantial prompting of strategies use is consistent with our general conclusion that fully self-regulated, autonomous use of strategies is the result of extensive, long-term instruction (see especially Pressley, El-Dinary, et al., 1992). A "student-effects" question in this study, one not taken up previously, is telling about teacher perceptions of their students' autonomous strategies use. When asked, "How independent are your students in their strategies use in reading?", seven of the teachers responded that high- and average-achieving students occasionally used strategies without cuing, with five others indicating their students frequently used strategies without cuing. With respect to low-achieving students, two responded rarely, five indicated occasionally, and four said frequently. Notably, in no case did the teachers select the most extreme positive scale value for this item, extensively. The teachers clearly perceived that their students would not use strategies in the absence of cuing as completely as they could use them, which probably accounts for much of the explicit prompting that was observed in this study.

Pieces Missing from the Teachers' Repertoires

Particularly intriguing are some of the teaching practices reported as least frequent, with review of our field notes confirming these teacher reports. Most critically, the observers saw little use of some procedures that enjoy solid theoretical and/or empirical support in the instructional literature. These include use of cooperative learning structures (see Slavin, 1985a, 1985b), analogies to explain strategic procedures (e.g., Mayer, 1985), explicit discussion of the intercoordination of strategies (e.g., Meichenbaum, 1977), and explicit commentary about how particular strategies promote students' comprehension or when a specific strategy might be useful (Pressley, Borkowski, & O'Sullivan, 1984, 1985). That these elements were missing highlights that even rich strategies instruction may not be as complete as it could be.

Teachers' Perceptions of Transactional Strategies Instruction

The teachers perceived strategies instruction to be very useful, both in general and across the school day. Although some strategies were perceived as more effective and important than others, all of the strategies in the SBI program were rated positively by the teachers. These perceptions are consistent with the many positive evaluations of the similar SAIL program reported in our previous collaborative interview study (Pressley, Schuder, et al., 1992). Even so, the teachers were realistic about the demands of transactional strategies instruction on them and classroom life. This study is more revealing about the challenges of classroom strategies instruction than our research group's previous efforts.

Challenges of Transactional Strategies Instruction

Although we have recognized for some time that strategies instruction is challenging (Pressley, Goodchild, et al., 1989), this study illuminates some of the particular difficulties faced by elementary teachers as they attempt to integrate strategies instruction into their classrooms. These teachers had substantial uncertainty about their strategies teaching, despite extensive professional development support for the strategies instruction. The teachers made clear that they needed all of the professional support mechanisms that were available in the school—the videotaped sample lessons, modeling, coaching, scripted lessons for practice, and conferencing with peers. In addition to the uncertainties, there were clear concerns about the amount of classroom time being devoted to strategies instruction, lack of texts well matched in difficulty and richness to those required for strategic reading, and challenges in grading strategic reading.

Although during the school year studied, one goal of the participating educators was to expand transactional strategies instruction beyond reading, there was much more reported strategies instruction during reading than in other parts of the school day. One sense that the observers/interviewers had was that extension of strategies instruction into other content areas was not well thought out by the school district yet, so that teachers were largely on their own to develop adaptations of transactional strategies instruction that would mesh with teaching in other content areas. That there was not much strategies instruction going on in the other content areas relative to reading reflects that the teachers found it overly challenging to make such adaptations without guidance.

In summary, transactional strategies instruction is not easy to implement even in a supportive schooling environment (See Pressley, Gaskins, Cunicelli, et al., 1991, for converging evidence that learning to be a strategies instruction teacher is formidable even in the context of an institution as supportive as the Benchmark School.).

Commitment to Transactional Strategies Instruction Despite the Challenges

Given the obstacles, a logical question is why these teachers bought into strategies instruction. The most likely reason is that the teachers perceived that strategies instruction changed their reading instruction and students' reading for the better. For one, the teachers reported enjoying the teaching of reading more than they did with their previous approach. Two, although not taken up in this article in detail, the teachers reported a broad range of positive effects of strategies instruction on their students' reading and academic progress, as reflected in the perceived usefulness data. Not only did teachers view strategies instruction as useful, but they reported doing more of it to the extent that they considered it useful (i.e., more in reading and math than in science and social studies, more reported teaching of particular strategies considered useful than ones seen as less useful).

Although strategies instruction has its costs, these teachers believed its benefits were worth the uncertainties, challenges, and most impor-

tantly, the substantial efforts reflected by the large repertoire of teaching practices documented in this study. In fact, the results of a recent quasi-experimental study support teachers' perceptions of reliable improvements due to transactional strategies instruction like that studied here (see Brown & Pressley, 1994; Brown et al., in preparation). Thus, the case is growing that transactional strategies instruction may, in fact, be worth the uncertainties, challenges, and efforts that teachers confront in implementing it.

Author Note. Pam El-Dinary is now at Georgetown University. Mike Pressley is at the Department of Educational Psychology and Statistics, State University of New York at Albany. Ted Schuder is now with the Maryland State Department of Education. Most of the Burnt Mills teachers from 1992-93 returned to the school and continue to teach comprehension strategies to their students. Lynne Coy-Ogan, however, has become an assistant principal at another school in the same district. Correspondence regarding this article can be addressed to Pam El-Dinary, 13088 Twelve Hills Road, Clarksville, MD 21029.

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